

# LITHIUM STORAGE SYSTEM TS

The commercial all-rounder



Designed for 30 years • 1C charging speed • The safest cell technology

**TESVOLT**  
THE ENERGY STORAGE EXPERTS

# WE HAVE A „THEN“ FOR ANY „WHEN“.

Our battery storage system can be optimally adapted to suit every application.

Whether for emergency power, a stand-alone power system or to cut peak loads, whether on- or off-grid, whether in the desert or the arctic circle – with the *TS system*, TESVOLT offers a technical storage solution for any application.

The *TS system* is not only flexible, with a size and output that can be adapted to suit any need, it is also one of the most

advanced and efficient storage systems. It is extremely robust and is therefore well-suited to the hardest tasks. Thanks to high-quality battery cells from the automobile industry and innovative technologies, such as the *Active Battery Optimizer*, our *TS storage system* is one of the most efficient and durable products on the market.

## Maximum safety

Prismatic battery cells are incredibly durable, safe and powerful – particularly in comparison to round cells. TESVOLT uses cells from Samsung SDI and offers a 10-year performance warranty on the entire storage system.

## Long lifespan

The lifespan of a battery has a huge impact on its economic efficiency. Our storage system features outstanding performance: all components are designed to last 8,000 cycles and offer a 30-year lifespan.

## High-performance without compromise

*TS storage systems* can store energy very quickly, and release it again just as quickly. With a continuous power rating of 1C – and even 4C for short periods – the storage system is optimized for professional use in commercial applications, agriculture and industry.

## Flexibility now and in the future

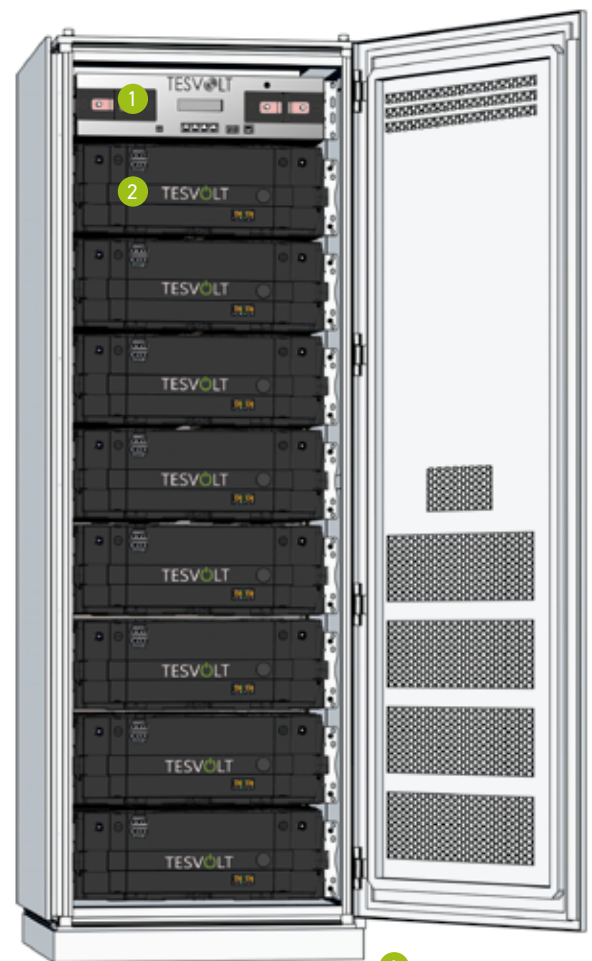
Our *TS storage systems* do not only offer flexible configuration options at the moment of purchase – thanks to the innovative *Active Battery Optimizer* technology, the capacity can also be expanded years later.

## Samsung SDI cells



- 3 Overcharge Safety Device (OSD)
- 4 Vent
- 5 Fuse
- 6 Active Battery Optimizer

Prismatic cells from Samsung SDI are extremely safe. For example, the *NSD (Nail Safety Device)* ensures that even when penetrated with a metal nail, the cell will not catch fire.



- 1 Active Power Unit
- 2 Battery module

## Battery module



Every battery module has its own *Active Battery Optimizer (ABO)* which can be separated from the module in a few easy steps, for example, for servicing.

## APPLICATIONS

- **Emergency power** – in the case of a power failure, your storage system is ready to supply power in a split second
- **Peak load shifting** – cut your peaks in consumption and save money by reducing the size of the mains connection
- **Increase self consumption** – use more of the power you have generated
- **Off-grid power supply** – set up your own power grid, e.g. in conjunction with a photovoltaic system

## MODULAR SYSTEM PRINCIPLE

TS systems can be flexibly adapted to suit any operating purpose:

- The desired energy is built up in 4.8 kWh increments. An *Active Power Unit (APU)* can control up to 16 battery modules.
- Three different racks are available as housing, each holding up to 5, 8 or 10 battery modules.
- 1-phase or 3-phase supply and the desired connected load determine the number of battery inverters required.



## SYSTEM CONFIGURATIONS

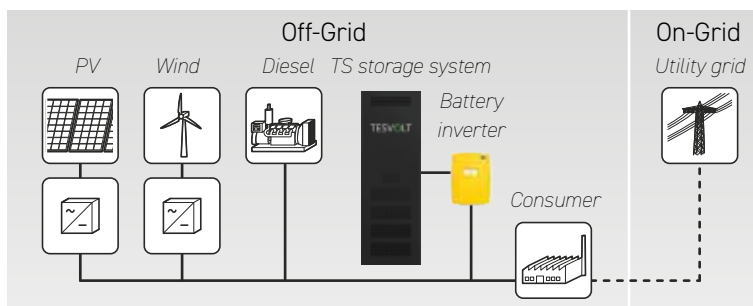
This table displays the possible output depending on the energy and the number of SMA Sunny Island stand-alone inverters.

3,686.4 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
230.4 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
211.2 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
192.0 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
172.8 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
153.6 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
134.4 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
115.2 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
96.0 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
76.8 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
57.6 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
38.4 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
24.0 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
19.2 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
14.4 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
9.6 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
4.8 kWh	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
↑ Energy TS System	3.3 kW	4.6 kW	6.0 kW	9.9 kW	13.8 kW	18 kW	36 kW	54 kW	72 kW	90 kW	108 kW	126 kW	144 kW	162 kW	180 kW	198 kW	216 kW
SMA → Sunny Island	1x 4,4M	1x 6,0H	1x 8,0H	3x 4,4M	3x 6,0H	3x 8,0H	Over 18kW of output, only Sunny Island 8.0H (6.0kW) inverters are depicted in the table.										

The company logo SMA, Sunny Island are registered trademarks of SMA Solar Technology AG in many countries worldwide.

## OFF-GRID OR ON-GRID

TS storage systems can be integrated into stand-alone grids and can also be connected to the utility grid. They can be flexibly combined with any sort of energy generator, including photovoltaics, bioenergy, wind power and diesel generators.



### Technical specifications TESVOLT battery module

Module energy	4.8 kWh
C-rate	1C (4C max. 20 sec.)
Cells	Lithium NMC prismatic (Samsung SDI)
Max. charging, discharging current	900 A
Cell balancing	Active Battery Optimizer
Cycles @ 100% DoD   70% EoL   23°C +/-5°C 1C/1C	6,000
Cycles @ 100% DoD   70% EoL   23°C +/-5°C 0.5C/0.5C	8,000
Efficiency (battery)	up to 98%
Operating voltage	44.8 to 58.1V
Operating temperature	-10 to 50°C
Humidity	0 to 85% (non condensing)
Weight	36 kg
Dimensions (HxWxD)	163x490x480 mm
Certificates/Norms	Cells: IEC 62619, UL 1642, UN 38.3 Product: CE, UN 38.3, IEC 61000-6-1/2/3/4, BattG 2006/66/EG
Warranty	10-year performance warranty, 5-year product warranty
Recycling	free take-back scheme from TESVOLT

### Complete system

Number of battery modules	3	4	5	6	7	8	9	10
<b>TS 25</b> (3 – 5 modules) 1300x600x600 mm (HxWxD)	•	•	•					
<b>TS 40</b> (6 – 8 modules) 1900x600x600 mm (HxWxD)				•	•	•		
<b>TS 50</b> (9 – 10 modules) 2300x600x600 mm (HxWxD)							•	•
<b>TS Flex</b> (energy as required)	Flexibly configure your system according to your requirements.							
Energy [kWh]	14.4	19.2	24.0	28.8	33.6	38.4	43.2	48.0
Capacity [Ah]	282	376	470	564	658	752	846	940
Maximum output power	1C (4C max. 20 sec.)							
Selfconsumption (standby)	1 watt (complete system TS)							
Weight [kg]	228	264	300	386	422	458	514	550
System	1-phase, 3-phase							
Protection class	IP 20 (indoor use)							
System compatibility	Sunny Island (SMA Solar Technology AG)							

Your certified TESVOLT partner

#### TESVOLT GmbH

Am Alten Bahnhof 10  
06886 Lutherstadt Wittenberg  
Deutschland | Germany

FRECALL 0800-TESVOLT

PHONE +49 (0) 3491 87 97 -100

info@tesvolt.com

[www.tesvolt.com](http://www.tesvolt.com)



EUROPÄISCHE UNION  
**EFRE**  
Europäischer Fonds für  
regionale Entwicklung